

Amendments to the Claims

The listing of claims will replace all prior versions, and listings of claims in the application.

1. (Currently amended) A computer-implemented method for generating an optimized auction commodity distribution plan for a predetermined number of present auction commodity products, the method comprising the steps of:

performing one or more elasticity computations for one or more past auction commodity products sold at one or more physical auction sites;

a processor generating an auction forecast price for ~~one or more~~ each of said predetermined number of present auction commodity products to be auctioned at said one or more physical auction sites using said one or more elasticity computations, wherein each of said present auction commodity products and said past commodity products have an associated commodity model type and a commodity model year; and

said processor generating an optimized auction commodity distribution plan for said ~~one or more~~ predetermined number of present auction commodity products using said generated forecast price for distributing each of said predetermined number of present auction commodity products to one of said physical auction sites prior to auctioning said present auction commodity product at said auction site.

2. (Currently amended) The method of claim 1, wherein said step of generating an auction forecast price comprises the steps of:

obtaining retail market performance data for one or more past retail commodity products sold at one or more retail sites;

obtaining regional data relevant to said one or more retail sites;
performing a regional trend analysis of sales for said one or more past retail commodity products using said retail market performance data and said regional data;
performing a seasonality analysis for said one or more past auction commodity products;
generating a time-series model for said one or more past retail commodity products using said regional trend analysis and said seasonality analysis; and
determining a price-level adjustment for said ~~one or more~~ predetermined number of present auction commodity products based on said elasticity computations and said time-series model.

3. (Original) The method of claim 2, wherein said step of obtaining regional data relevant to said one or more retail sites comprises the steps of:

retrieving local unemployment data;
retrieving gross product growth data; and
retrieving population growth data.

4. (Original) The method of claim 2, wherein said step of performing a regional trend analysis comprises the step of determining a profit margin and a time-to-turn for said one or more past retail commodity products using said retrieved retail market performance data.

5. (Original) The method of claim 2, wherein said step of performing a seasonality analysis comprises the step of quantifying a seasonal effect on a past auction commodity price paid for said one or more past auction commodity products.

6. (Original) The method of claim 1, wherein said step of performing one or more elasticity computations comprises the step of determining a self-price elasticity value representing a percentage decrease in said past auction commodity price paid for a first one of said one or more past auction commodity products due to a percentage increase in auction volume of a second one of said past auction commodity products, said first and second past auction commodity products having the same commodity model type and the same commodity model year.

7. (Previously presented) The method of claim 6, wherein said step of performing one or more elasticity computations further comprises the step of determining a cross-price elasticity value representing a percentage decrease in said past auction commodity price paid for said first one of said one or more past auction commodity products due to a percentage increase in auction volume of a third one of said one or more past auction commodity products, wherein said first and third past auction commodity products have different commodity model types.

8. (Previously presented) The method of claim 7, wherein said step of performing one or more elasticity computations further comprises the step of determining a cross-price elasticity value representing a percentage decrease in said past auction commodity

price for said first one of said one or more past auction commodity products due to a percentage increase in auction volume of a fourth one of said one or more past auction commodity products, wherein said first and fourth past auction commodity products have a different commodity model year.

9. (Currently amended) The method of claim 2, further comprising the step of obtaining present auction commodity description data for said ~~one or more~~ predetermined number of present auction commodity products.

10. (Currently amended) The method of claim 9, wherein said step of obtaining present auction commodity description data includes the steps of:

obtaining a present commodity usage measurement for said ~~one or more~~ predetermined number of present auction commodity products;

obtaining one or more present optional features associated with said ~~one or more~~ predetermined number of present auction commodity products; and

obtaining a present auction type associated with said ~~one or more~~ predetermined number of present auction commodity products.

11. (Original) The method of claim 10, further comprising the step of obtaining past auction commodity description data for said one or more past auction commodity products.

12. (Original) The method of claim 11, wherein said step of obtaining past auction commodity description data includes the steps of:

obtaining a past commodity usage measurement for said one or more past auction commodity products;

obtaining one or more past optional features associated with said one or more past auction commodity products; and

obtaining a past auction type associated with said one or more past auction commodity products.

13. (Currently amended) The method of claim 12, further comprising the step of determining an initial forecast auction commodity price for each of said ~~one or more~~ predetermined number of present auction commodity products using said past auction commodity description data and said present auction commodity description data.

14. (Currently amended) The method of claim 13, wherein said step of determining an initial forecast auction commodity price for each of said ~~one or more~~ predetermined number of present auction commodity products includes the steps of:

performing a usage measurement depreciation analysis;

performing a commodity optional feature analysis; and

performing an auction type analysis.

15. (Original) The method of claim 14, wherein said step of performing a usage measurement depreciation analysis comprises the steps of:

defining one or more past commodity product groups, wherein each of said one or more past commodity product groups is representative of said one or more past auction commodity products that have the same commodity model type and the same commodity model year; and

generating a usage measurement deduction curve for each of said one or more past auction commodity product groups.

16. (Original) The method of claim 15, wherein said step of generating a usage measurement deduction curve comprises using said past auction commodity usage measurements associated with said past commodity product group to generate said usage measurement deduction curve.

17. (Currently amended) The method of claim 15, wherein said step of determining an initial forecast auction commodity price further comprises the step of determining a usage measurement deduction for said ~~one or more~~ predetermined number of present auction commodity products using said generated usage measurement deduction curve for said past commodity product group having the same commodity model type and the same commodity model year as said ~~one or more~~ predetermined number of present auction commodity products.

18. (Original) The method of claim 15, wherein said step of performing a commodity optional feature analysis comprises the steps of:

defining one or more past commodity product feature groups, wherein each of said one or more past commodity product feature groups is representative of said one or more past auction commodity products that have the same past optional features; and

generating a past commodity product feature model for each of said one or more past commodity product feature groups.

19. (Original) The method of claim 18, wherein said step of performing an auction type analysis comprises the steps of:

defining one or more past auction type groups, wherein said one or more past auction type groups is representative of said one or more past auction commodity products that are associated with the same past auction type; and

generating a past auction type model for each of said one or more past auction type groups.

20. (Currently amended) The method of claim 19, wherein said step of determining an initial forecast auction commodity price for each of said ~~one or more~~ predetermined number of present auction commodity products includes the steps of:

determining a confidence distance between said ~~one or more~~ predetermined number of present auction commodity products and said one or more past auction commodity products;

assigning a confidence weight to said one or more past auction commodity products based on said determined confidence distance; and

setting said initial auction forecast price for said ~~one or more~~ predetermined number of present auction commodity products equal to a weighted average of said past auction price paid for said one or more past auction commodity products using said assigned confidence weight.

21. (Original) The method of claim 20, further comprising the step of retrieving present retail market condition data, present commodity product demand data based on seasonal changes, present commodity product supply data, and present auction volume data.

22. (Currently amended) The method of claim 21, wherein said step of generating an auction forecast price step generates said auction forecast price by adjusting said set initial auction forecast price for said ~~one or more~~ predetermined number of present auction commodity products using said determined price level adjustments, said present retail market condition data, said present commodity product demand data, said present commodity product supply data, and said present auction volume data.

23. (Currently amended) The method of claim 22, wherein said step of generating an optimized auction commodity distribution plan comprises the steps of:

obtaining optimization data, said optimization data including said generated forecast price for each of said ~~one or more~~ predetermined number of present auction commodity products, said present auction commodity product description data, a

shipping cost, a shipping time, a time-value adjustment, a current inventory listing for each of said one or more physical auction sites, a capacity constraint for each of said one or more physical auction sites, and a local elasticity measurement for each of said one or more physical auction sites;

obtaining one or more optimization parameters, said optimization parameters including a population size, one or more genetic operators, and a maximum iteration number;

representing an initial auction commodity distribution plan as a genome, where said genome is an array of one or more commodity product objects and further wherein each of said commodity objects is comprised of said present commodity description data for one of said present auction commodity products, a source location, and a target location;

generating a number of first generation genomes, said number being equal to said population size;

determining a first fitness value for each commodity product object in each genome of said first generation genomes;

determining a second fitness value for each respective genome by adding said determined first fitness values together; and

evolving said first generation of genomes.

24. (Original) The method of claim 23, wherein said step of evolving comprises the steps of:

selecting one of said one or more genetic operators;

selecting one or more of said first generation genomes to modify based on said determined second fitness value;

modifying said selected one or more first generation genomes using said selected genetic operator, thereby producing one or more modified genomes;

determining a third fitness value for each of said one or more modified genomes;

randomly selecting one of said one or more modified genomes based on a probability value; and

generating an evolved generation of genomes that includes said selected modified genome and repeating said evolving step until a stop condition is satisfied.

25. (Currently amended) The method of claim 24, wherein said first and third fitness values are determined by calculating a fitness value for each of the ~~one or more~~ predetermined number of present auction commodity products, which is a function of a forecasted price, a shipping cost, an asset carrying cost, and an elasticity.

26. (Original) The method of claim 25 wherein said stop condition is satisfied when a convergence threshold is satisfied or when said maximum iteration number is exceeded.

27. (Original) The method of claim 26, wherein after said stop condition is satisfied, said evolved generation of genomes is selected as said optimized auction commodity distribution plan.

28. (Original) The method of claim 27, further comprising the step of outputting said optimized auction commodity distribution plan.

29. (Currently amended) A system for generating an optimized auction commodity distribution plan for a predetermined number of present auction commodity products, comprising:

means for performing one or more elasticity computations for one or more past auction commodity products sold at one or more physical auction sites;

means for generating an auction forecast price for ~~one or more~~ each of said predetermined number of present auction commodity products to be auctioned at said one or more physical auction sites using said one or more elasticity computations, wherein each of said present auction commodity products and said past commodity products have an associated commodity model type and a commodity model year; and

means for generating an optimized auction commodity distribution plan for said ~~one or more~~ predetermined number of present auction commodity products using said generated forecast price for distributing each of said predetermined number of present auction commodity products to one of said physical auction sites prior to auctioning said present auction commodity product at said auction site.

30. (Currently amended) The system of claim 29, wherein said means for generating an auction forecast price comprises:

means for obtaining retail market performance data for one or more past retail commodity products sold at one or more retail sites;

means for obtaining regional data relevant to said one or more retail sites;

means for performing a regional trend analysis of sales for said one or more past retail commodity products using said retail market performance data and said regional data;

means for performing a seasonality analysis for said one or more past auction commodity products;

means for generating a time-series model for said one or more past retail commodity products using said regional trend analysis and said seasonality analysis; and

means for determining a price-level adjustment for said ~~one or more~~ predetermined number of present auction commodity products based on said elasticity computations and said time-series model.

31. (Original) The system of claim 30, wherein said means for obtaining regional data relevant to said one or more retail sites comprises:

means for retrieving local unemployment data;

means for retrieving gross product growth data; and

means for retrieving population growth data.

32. (Original) The system of claim 30, wherein said means for performing a regional trend analysis comprises means for determining a profit margin and a time-to-turn for said one or more past retail commodity products using said retrieved retail market performance data.

33. (Original) The system of claim 30, wherein said means for performing a seasonality analysis comprises means for quantifying a seasonal effect on a past auction commodity price paid for said one or more past auction commodity products.

34. (Original) The system of claim 29, wherein said means for performing one or more elasticity computations comprises means for determining a self-price elasticity value representing a percentage decrease in said past auction commodity price paid for a first one of said one or more past auction commodity products due to a percentage increase in auction volume of a second one of said past auction commodity products, said first and second past auction commodity products having the same commodity model type and the same commodity model year.

35. (Previously presented) The system of claim 34, wherein said means for performing one or more elasticity computations further comprises means for determining a cross-price elasticity value representing a percentage decrease in said past auction commodity price paid for said first one of said one or more past auction commodity products due to a percentage increase in auction volume of a third one of said one or

more past auction commodity products, wherein said first and third past auction commodity products have different commodity model types.

36. (Previously presented) The system of claim 35, wherein said means for performing one or more elasticity computations further comprises means for determining a cross-price elasticity value representing a percentage decrease in said past auction commodity price for said first one of said one or more past auction commodity products due to a percentage increase in auction volume of a fourth one of said one or more past auction commodity products, wherein said first and fourth past auction commodity products have a different commodity model year.

37. (Currently amended) The system of claim 30, further comprising means for obtaining present auction commodity description data for said ~~one or more~~ predetermined number of present auction commodity products.

38. (Currently amended) The system of claim 37, wherein said means for obtaining present auction commodity description data includes:

means for obtaining a present commodity usage measurement for said ~~one or more~~ predetermined number of present auction commodity products;

means for obtaining one or more present optional features associated with said ~~one or more~~ predetermined number of present auction commodity products; and

means for obtaining a present auction type associated with said ~~one or more~~ predetermined number of present auction commodity products.

39. (Original) The system of claim 38, further comprising means for obtaining past auction commodity description data for said one or more past auction commodity products.

40. (Original) The system of claim 39, wherein said means for obtaining past auction commodity description data includes:

means for obtaining a past commodity usage measurement for said one or more past auction commodity products;

means for obtaining one or more past optional features associated with said one or more past auction commodity products; and

means for obtaining a past auction type associated with said one or more past auction commodity products.

41. (Currently amended) The system of claim 40, further comprising means for determining an initial forecast auction commodity price for each of said ~~one or more~~ predetermined number of present auction commodity products using said past auction commodity description data and said present auction commodity description data.

42. (Currently amended) The system of claim 41, wherein said means for determining an initial forecast auction commodity price for each of said ~~one or more~~ predetermined number of present auction commodity products includes:

means for performing a usage measurement depreciation analysis;

means for performing a commodity optional feature analysis; and
means for performing an auction type analysis.

43. (Original) The system of claim 42, wherein said means for performing a usage measurement depreciation analysis comprises:

means for defining one or more past commodity product groups, wherein each of said one or more past commodity product groups is representative of said one or more past auction commodity products that have the same commodity model type and the same commodity model year; and

means for generating a usage measurement deduction curve for each of said one or more past auction commodity product groups.

44. (Original) The system of claim 43, wherein said means for generating a usage measurement deduction curve comprises using said past auction commodity usage measurements associated with said past commodity product group to generate said usage measurement deduction curve.

45. (Currently amended) The system of claim 43, wherein said means for determining an initial forecast auction commodity price further comprises means for determining a usage measurement deduction for said ~~one or more~~ predetermined number of present auction commodity products using said generated usage measurement deduction curve for said past commodity product group having the same commodity

model type and the same commodity model year as said ~~one or more~~ predetermined number of present auction commodity products.

46. (Original) The system of claim 43, wherein said means for performing a commodity optional feature analysis comprises:

means for defining one or more past commodity product feature groups, wherein each of said one or more past commodity product feature groups is representative of said one or more past auction commodity products that have the same past optional features; and

means for generating a past commodity product feature model for each of said one or more past commodity product feature groups.

47. (Original) The system of claim 46, wherein said means for performing an auction type analysis comprises:

means for defining one or more past auction type groups, wherein said one or more past auction type groups is representative of said one or more past auction commodity products that are associated with the same past auction type; and

means for generating a past auction type model for each of said one or more past auction type groups.

48. (Currently amended) The system of claim 47, wherein said means for determining an initial forecast auction commodity price for each of said ~~one or more~~ predetermined number of present auction commodity products includes:

means for determining a confidence distance between said ~~one or more~~ predetermined number of present auction commodity products and said one or more past auction commodity products;

means for assigning a confidence weight to said one or more past auction commodity products based on said determined confidence distance; and

means for setting said initial auction forecast price for said ~~one or more~~ predetermined number of present auction commodity products equal to a weighted average of said past auction price paid for said one or more past auction commodity products using said assigned confidence weight.

49. (Original) The system of claim 48, further comprising means for retrieving present retail market condition data, present commodity product demand data based on seasonal changes, present commodity product supply data, and present auction volume data.

50. (Currently amended) The system of claim ~~[[21,]]~~ 49, wherein said means for generating an auction forecast price comprises means for adjusting said set initial auction forecast price for said ~~one or more~~ predetermined number of present auction commodity products using said determined price level adjustments, said present retail market condition data, said present commodity product demand data, said present commodity product supply data, and said present auction volume data.

51. (Currently amended) The system of claim 50, wherein said means for generating an optimized auction commodity distribution plan comprises:

means for obtaining optimization data, said optimization data including said generated forecast price for each of said ~~one or more~~ predetermined number of present auction commodity products, said present auction commodity product description data, a shipping cost, a shipping time, a time-value adjustment, a current inventory listing for each of said one or more physical auction sites, a capacity constraint for each of said one or more physical auction sites, and a local elasticity measurement for each of said one or more physical auction sites;

means for obtaining one or more optimization parameters, said optimization parameters including a population size, one or more genetic operators, and a maximum iteration number;

means for representing an initial auction commodity distribution plan as a genome, where said genome is an array of one or more commodity product objects and further wherein each of said commodity objects is comprised of said present commodity description data for one of said present auction commodity products, a source location, and a target location;

means for generating a number of first generation genomes, said number being equal to said population size;

means for determining a first fitness value for each commodity product object in each genome of said first generation genomes;

means for determining a second fitness value for each respective genome by adding said determined first fitness values together; and
means for evolving said first generation of genomes.

52. (Original) The system of claim 51, wherein said means for evolving said first generation of genomes comprises:

means for selecting one of said one or more genetic operators;
means for selecting one or more of said first generation genomes to modify based on said determined second fitness value;
means for modifying said selected one or more first generation genomes using said selected genetic operator, thereby producing one or more modified genomes;
means for determining a third fitness value for each of said one or more modified genomes;
means for randomly selecting one of said one or more modified genomes based on a probability value; and
means for generating an evolved generation of genomes that includes said selected modified genome and repeating said evolving step until a stop condition is satisfied.

53. (Currently amended) The system of claim 52, wherein said first and third fitness values are determined by calculating a fitness value for each of the ~~one or more~~ predetermined number of present auction commodity products, which is a function of a forecasted price, a shipping cost, an asset carrying cost, and an elasticity.

54. (Original) The system of claim 53 wherein said stop condition is satisfied when a convergence threshold is satisfied or when said maximum iteration number is exceeded.

55. (Original) The system of claim 53, wherein after said stop condition is satisfied, said evolved generation of genomes is selected as said optimized auction commodity distribution plan.

56. (Original) The system of claim 55, further comprising means for outputting said optimized auction commodity distribution plan.

57. (Currently amended) A computer program product embodied on a computer useable medium comprising computer program logic stored therein for generating an optimized auction commodity distribution plan for a predetermined number of present auction commodity products, the computer program logic comprising:

computer readable program code means for performing one or more elasticity computations for one or more past auction commodity products sold at one or more physical auction sites;

computer readable program code means for generating an auction forecast price for ~~one or more~~ each of said predetermined number of present auction commodity products to be auctioned at said one or more physical auction sites using said one or more elasticity computations, wherein each of said present auction commodity products

and said past commodity products have an associated commodity model type and a commodity model year; and

computer readable program code means for generating an optimized auction commodity distribution plan for said ~~one or more~~ predetermined number of present auction commodity products using said generated forecast price for distributing each of said predetermined number of present auction commodity products to one of said physical auction sites prior to auctioning said present auction commodity product at said auction site.

58. (Currently amended) The computer program product of claim 57, wherein said computer readable program code means for generating an auction forecast price comprises:

computer readable program code means for obtaining retail market performance data for one or more past retail commodity products sold at one or more retail sites;
computer readable program code means for obtaining regional data relevant to said one or more retail sites;

computer readable program code means for performing a regional trend analysis of sales for said one or more past retail commodity products using said retail market performance data and said regional data;

computer readable program code means for performing a seasonality analysis for said one or more past auction commodity products;

computer readable program code means for generating a time-series model for said one or more past retail commodity products using said regional trend analysis and said seasonality analysis; and

computer readable program code means for determining a price-level adjustment for said ~~one or more~~ predetermined number of present auction commodity products based on said elasticity computations and said time-series model.

59. (Previously presented) The computer program product of claim 58, wherein said computer readable program code means for obtaining regional data relevant to said one or more retail sites comprises:

computer readable program code means for retrieving local unemployment data;

computer readable program code means for retrieving gross product growth data;

and

computer readable program code means for retrieving population growth data.

60. (Original) The computer program product of claim 59, wherein said computer readable program code means for performing a regional trend analysis comprises computer readable program code means for determining a profit margin and a time-to-turn for said one or more past retail commodity products using said retrieved retail market performance data.

61. (Original) The computer program product of claim 58, wherein said computer readable program code means for performing a seasonality analysis comprises computer

readable program code means for quantifying a seasonal effect on a past auction commodity price paid for said one or more past auction commodity products.

62. (Original) The computer program product of claim 57, wherein said computer readable program code means for performing one or more elasticity computations comprises computer readable program code means for determining a self-price elasticity value representing a percentage decrease in said past auction commodity price paid for a first one of said one or more past auction commodity products due to a percentage increase in auction volume of a second one of said past auction commodity products, said first and second past auction commodity products having the same commodity model type and the same commodity model year.

63. (Previously presented) The computer program product of claim 62, wherein said computer readable program code means for performing one or more elasticity computations further comprises computer readable program code means for determining a cross-price elasticity value representing a percentage decrease in said past auction commodity price paid for said first one of said one or more past auction commodity products due to a percentage increase in auction volume of a third one of said one or more past auction commodity products, wherein said first and third past auction commodity products have different commodity model types.

64. (Previously presented) The computer program product of claim 63, wherein said computer readable program code means for performing one or more elasticity computations further comprises computer readable program code means for determining a cross-price elasticity value representing a percentage decrease in said past auction commodity price for said first one of said one or more past auction commodity products due to a percentage increase in auction volume of a fourth one of said one or more past auction commodity products, wherein said first and fourth past auction commodity products have a different commodity model year.

65. (Currently amended) The computer program product of claim 58, further comprising computer readable program code means for obtaining present auction commodity description data for said ~~one or more~~ predetermined number of present auction commodity products.

66. (Currently amended) The computer program product of claim 65, wherein said computer readable program code means for obtaining present auction commodity description data includes:

computer readable program code means for obtaining a present commodity usage measurement for said ~~one or more~~ predetermined number of present auction commodity products;

computer readable program code means for obtaining one or more present optional features associated with said ~~one or more~~ predetermined number of present auction commodity products; and

computer readable program code means for obtaining a present auction type associated with said ~~one or more~~ predetermined number of present auction commodity products.

67. (Original) The computer program product of claim 66, further comprising computer readable program code means for obtaining past auction commodity description data for said one or more past auction commodity products.

68. (Currently amended) The computer program product of claim [[39,]] 67, wherein said computer readable program code means for obtaining past auction commodity description data includes:

computer readable program code means for obtaining a past commodity usage measurement for said one or more past auction commodity products;

computer readable program code means for obtaining one or more past optional features associated with said one or more past auction commodity products; and

computer readable program code means for obtaining a past auction type associated with said one or more past auction commodity products.

69. (Currently amended) The computer program product of claim [[40,]] 68, further comprising computer readable program code means for determining an initial forecast auction commodity price for each of said ~~one or more~~ predetermined number of present auction commodity products using said past auction commodity description data and said present auction commodity description data.

70. (Currently amended) The computer program product of claim 69, wherein said computer readable program code means for determining an initial forecast auction commodity price for each of said ~~one or more~~ predetermined number of present auction commodity products includes:

computer readable program code means for performing a usage measurement depreciation analysis;

computer readable program code means for performing a commodity optional feature analysis; and

computer readable program code means for performing an auction type analysis.

71. (Original) The computer program product of claim 70, wherein said computer readable program code means for performing a usage measurement depreciation analysis comprises:

computer readable program code means for defining one or more past commodity product groups, wherein each of said one or more past commodity product groups is representative of said one or more past auction commodity products that have the same commodity model type and the same commodity model year; and

computer readable program code means for generating a usage measurement deduction curve for each of said one or more past auction commodity product groups.

72. (Original) The computer program product of claim 71, wherein said computer readable program code means for generating a usage measurement deduction curve comprises computer readable program code means for using said past auction commodity usage measurements associated with said past commodity product group to generate said usage measurement deduction curve.

73. (Currently amended) The computer program product of claim 71, wherein said computer readable program code means for determining an initial forecast auction commodity price further comprises computer readable program code means for determining a usage measurement deduction for said ~~one or more~~ predetermined number of present auction commodity products using said generated usage measurement deduction curve for said past commodity product group having the same commodity model type and the same commodity model year as said ~~one or more~~ predetermined number of present auction commodity products.

74. (Original) The computer program product of claim 71, wherein said computer readable program code means for performing a commodity optional feature analysis comprises:

computer readable program code means for defining one or more past commodity product feature groups, wherein each of said one or more past commodity product feature groups is representative of said one or more past auction commodity products that have the same past optional features; and

computer readable program code means for generating a past commodity product feature model for each of said one or more past commodity product feature groups.

75. (Original) The computer program product of claim 74, wherein said computer readable program code means for performing an auction type analysis comprises:

computer readable program code means for defining one or more past auction type groups, wherein said one or more past auction type groups is representative of said one or more past auction commodity products that are associated with the same past auction type; and

computer readable program code means for generating a past auction type model for each of said one or more past auction type groups.

76. (Currently amended) The computer program product of claim 75, wherein said computer readable program code means for determining an initial forecast auction commodity price for each of said ~~one or more~~ predetermined number of present auction commodity products includes:

computer readable program code means for determining a confidence distance between said ~~one or more~~ predetermined number of present auction commodity products and said one or more past auction commodity products;

computer readable program code means for assigning a confidence weight to said one or more past auction commodity products based on said determined confidence distance; and

computer readable program code means for setting said initial auction forecast price for said ~~one or more~~ predetermined number of present auction commodity products equal to a weighted average of said past auction price paid for said one or more past auction commodity products using said assigned confidence weight.

77. (Original) The computer program product of claim 76, further comprising computer readable program code means for retrieving present retail market condition data, present commodity product demand data based on seasonal changes, present commodity product supply data, and present auction volume data.

78. (Currently amended) The computer program product of claim 77, wherein said computer readable program code means for generating an auction forecast price comprises computer readable program code means for adjusting said set initial auction forecast price for said ~~one or more~~ predetermined number of present auction commodity products using said determined price level adjustments, said present retail market condition data, said present commodity product demand data, said present commodity product supply data, and said present auction volume data.

79. (Currently amended) The computer program product of claim 78, wherein said computer readable program code means for generating an optimized auction commodity distribution plan comprises:

computer readable program code means for obtaining optimization data, said optimization data including said generated forecast price for each of said ~~one or more~~

predetermined number of present auction commodity products, said present auction commodity product description data, a shipping cost, a shipping time, a time-value adjustment, a current inventory listing for each of said one or more physical auction sites, a capacity constraint for each of said one or more physical auction sites, and a local elasticity measurement for each of said one or more physical auction sites;

computer readable program code means for obtaining one or more optimization parameters, said optimization parameters including a population size, one or more genetic operators, and a maximum iteration number;

computer readable program code means for representing an initial auction commodity distribution plan as a genome, where said genome is an array of one or more commodity product objects and further wherein each of said commodity objects is comprised of said present commodity description data for one of said present auction commodity products, a source location, and a target location;

computer readable program code means for generating a number of first generation genomes, said number being equal to said population size;

computer readable program code means for determining a first fitness value for each commodity product object in each genome of said first generation genomes;

computer readable program code means for determining a second fitness value for each respective genome by adding said determined first fitness values together; and

computer readable program code means for evolving said first generation of genomes.

80. (Original) The computer program product of claim 79, wherein said computer readable program code means for evolving said first generation of genomes comprises:

computer readable program code means for selecting one of said one or more genetic operators;

computer readable program code means for selecting one or more of said first generation genomes to modify based on said determined second fitness value;

computer readable program code means for modifying said selected one or more first generation genomes using said selected genetic operator, thereby producing one or more modified genomes;

computer readable program code means for determining a third fitness value for each of said one or more modified genomes;

computer readable program code means for randomly selecting one of said one or more modified genomes based on a probability value; and

computer readable program code means for generating an evolved generation of genomes that includes said selected modified genome and repeating said evolving step until a stop condition is satisfied.

81. (Currently amended) The computer program product of claim 80, wherein said first and third fitness values are determined by calculating a fitness value for each of the ~~one or more~~ predetermined number of present auction commodity products, which is a function of a forecasted price, a shipping cost, an asset carrying cost, and an elasticity.

82. (Original) The computer program product of claim 81 wherein said stop condition is satisfied when a convergence threshold is satisfied or when said maximum iteration number is exceeded.

83. (Original) The computer program product of claim 81, wherein after said stop condition is satisfied, said evolved generation of genomes is selected as said optimized auction commodity distribution plan.

84. (Original) The computer program product of claim 83, further comprising computer readable program code means for outputting said optimized auction commodity distribution plan.

85. (Currently amended) A computer-implemented method for generating an optimized auction commodity distribution plan for a ~~plurality~~ predetermined number of present auction commodity products to be auctioned at one or more of a plurality of physical auction sites, the method comprising the steps of:

performing one or more elasticity computations for a plurality of past auction commodity products sold at said plurality of physical auction sites;

a processor generating an auction forecast price for each of said predetermined number of present auction commodity products for each of said plurality of physical auction sites using said one or more elasticity computations; and

said processor generating an optimized auction commodity distribution plan for said ~~plurality~~ predetermined number of present auction commodity products using said

generated forecast price, wherein said optimized auction commodity distribution plan is a plan for distributing each of said predetermined number of present auction commodity products to one of said plurality of physical auction sites prior to auctioning said present auction commodity product at said auction site.

86. (Previously presented) The method of claim 1, wherein the optimized distribution plan is a plan for distributing each of said one or more present auction commodity products to one of said one or more auction sites prior to said auction commodity product being placed on auction.

87. (Previously presented) The system of claim 29, wherein the optimized distribution plan is a plan for distributing each of said one or more present auction commodity products to one of said one or more auction sites prior to said auction commodity product being placed on auction.

88. (Previously presented) The computer program product of claim 57, wherein the optimized distribution plan is a plan for distributing each of said one or more present auction commodity products to one of said one or more auction sites prior to said auction commodity product being placed on auction.

89. (New) A computer-implemented method for generating an optimized auction commodity distribution plan for one or more present auction commodity products, comprising:

a) obtaining retail transaction data of past retail commodity products sold at one or more of a plurality of retail sites;

b) obtaining wholesale transaction data of past auction commodity products sold at one or more of a plurality of auction sites;

c) a processor analyzing said retail transaction data and said wholesale transaction data, said step of analyzing comprising:

i) performing a regional trend analysis of sales for said past retail commodity products using said retail transaction data;

ii) performing a seasonality analysis for said past retail commodity products;

iii) generating a time-series model for said past retail commodity products using said regional trend analysis and said seasonality analysis;

iv) determining a price-level adjustment for said one or more present auction commodity products based on said time-series model;

v) generating a usage measurement depreciation model using said wholesale transaction data;

vi) generating a commodity optional feature model using said wholesale transaction data;

vii) generating an auction type model using said wholesale transaction data; and

- viii) performing one or more elasticity computations for said past auction commodity products;
- d) obtaining present auction commodity description data for said one or more present auction commodity products, said step of obtaining present auction commodity description data comprising:
 - i) obtaining a present commodity usage measurement for said one or more present auction commodity products;
 - ii) obtaining one or more present optional features associated with said one or more present auction commodity products; and
 - iii) obtaining a present auction type associated with said one or more present auction commodity products;
- e) said processor determining an initial forecast auction commodity price for each of said one or more present auction commodity products, said step of determining an initial forecast auction commodity price for each of said one or more present auction commodity products comprising:
 - i) performing a usage measurement depreciation adjustment using said usage measurement depreciation model, said step of performing a usage measurement depreciation adjustment comprises the steps of:
 - (a) defining one or more past commodity product groups, wherein each of said one or more past commodity product groups is representative of said one or more past auction commodity products that have a same commodity model type and a same commodity model year; and

(b) generating a usage measurement deduction curve for each of said one or more past auction commodity product groups;

ii) performing a commodity optional feature adjustment using said commodity optional feature model, said step of performing a commodity optional feature adjustment comprising:

(a) defining one or more past commodity product feature groups, wherein each of said one or more past commodity product feature groups is representative of said one or more past auction commodity products that have the same past optional features; and

(b) generating a past commodity product feature model for each of said one or more past commodity product feature groups; and

iii) performing an auction type adjustment using said auction type model, said step of performing an auction type adjustment comprising:

(a) defining one or more past auction type groups, wherein said one or more past auction type groups is representative of said one or more past auction commodity products that are associated with the same past auction type; and

(b) generating a past auction type model for each of said one or more past auction type groups;

iv) determining a confidence distance between said one or more present auction commodity products and said one or more past auction commodity products;

- v) assigning a confidence weight to said one or more past auction commodity products based on said determined confidence distance; and
- vi) setting said initial auction forecast price for said one or more present auction commodity products equal to a weighted average of said past auction price paid for said one or more past auction commodity products using said assigned confidence weight;
- f) retrieving present retail market condition data, present commodity product demand data based on seasonal changes, present commodity product supply data, and present auction volume data;
- g) generating a final auction forecast price by adjusting said set initial auction forecast price for said one or more present auction commodity products using said present retail market condition data, said present commodity product demand data, said present commodity product supply data, and said present auction volume data; and
- h) generating an optimized auction commodity distribution plan using optimization data, said optimization data comprising said generated forecast price for each of said one or more present auction commodity products, said present auction commodity product description data, a shipping cost, a shipping time, a time-value adjustment, a current inventory listing for each of said one or more auction sites, a capacity constraint for each of said one or more auction sites, and a local elasticity measurement for each of said one or more auction sites, said step of generating an optimized auction commodity distribution plan comprising:
 - i) obtaining one or more optimization parameters, said

optimization parameters including a population size, one or more genetic operators, and a maximum iteration number;

ii) representing an initial auction commodity distribution plan as a genome, wherein said genome is an array of one or more commodity product objects and further wherein each of said commodity objects is comprised of said present commodity description data for one of said present auction commodity products, a source location, and a target location;

iii) generating a number of first generation genomes, said number being equal to said population size;

iv) determining a first fitness value for each commodity product object in each genome of said first generation genomes;

v) determining a second fitness value for each respective genome by adding said determined first fitness values together; and

vi) evolving said first generation of genomes.

90. (New) The method of claim 89, wherein said step of evolving comprises the steps of:

selecting one of said one or more genetic operators;

selecting one or more of said first generation genomes to modify based on said determined second fitness value;

modifying said selected one or more first generation genomes using said selected genetic operator, thereby producing one or more modified genomes;

determining a third fitness value for each of said one or more modified genomes;

randomly selecting one of said one or more modified genomes based on a probability value; and

generating an evolved generation of genomes that includes said selected modified genome and repeating said evolving step until a stop condition is satisfied.

91. (New) The method of claim 90, wherein said first and third fitness values are determined by calculating a fitness value for each of the one or more present auction commodity products, which is a function of a forecasted price, a shipping cost, an asset carrying cost, and an elasticity.

92. (New) The method of claim 91 wherein said stop condition is satisfied when a convergence threshold is satisfied or when said maximum iteration number is exceeded.

93. (New) The method of claim 92, wherein after said stop condition is satisfied, said evolved generation of genomes is selected as said optimized auction commodity distribution plan.

94. (New) The method of claim 93, further comprising the step of outputting said optimized auction commodity distribution plan.